

## Warren, VT; Case Study

### Decentralized Wastewater Management



### *Background*

The Village of Warren, located in the Mad River Valley, pursued a successful wastewater management solution to bring capacity to local businesses and residences in need. After concerns put forth by community members and local community groups about water quality in the Mad River, testing was completed and pushed the town to pursue a wastewater management solution. With funding supported by the Pitcher's Inn in 1997, a small community cluster system was constructed of 5,000 gallons per day (gpd) located at the elementary school recreational field, Brooks Field. This system served the Inn, the Warren Store, the fire station, the Town post office, several town offices, and two residences. After a flood event in 1998 and after more than a decade of monitoring by Friends of the Mad River which showed contamination in the village, and opportunity was created for the town to benefit from an EPA Special Demonstration Grant. Warren received the Grant and with Mad River Valley Planning District (MRVPD) created a work plan to pursue a decentralized system. The system was built and expanded to increase capacity to 30,000 gpd and the town then purchased the system.

### *Timeline*

- 1985:** Mad River Watch started by Friends of the Mad River, volunteers continue to monitor over 30 sites watershed today
- 1987:** Philips & Emberely Feasibility Study conducted, recommends Brooks Field as likely wastewater treatment site
- 1997:** Pitcher Inn identifies need for additional capacity and Town, and pursues small wastewater solution
- 1998:** Mad River flooding causes rise of concern and community wide wastewater solutions begin to be pursued
- 1999-2000:** EPA Special Demonstration Grant awarded to Town to expand wastewater solution plan
- 2001:** Draft Needs Assessment Report released with recommended project plan
- 2002:** Review by committee and external engineers on feasibility of plan
- 2003:** Final project plan and design completed
- May 2003-October 2004:** Construction

# Warren's Constructed Systems

The proposed plan created in conjunction with Forcier Aldrich & Associates as well as Stone Environmental included:

- Build a septic tank collection system including the septic tanks, effluent sewers, and upgrade the Brooks Field leachfield to increase the capacity to 30,000 gpd
- Construct an additional shared system that could manage a capacity of 2,000 gpd
- Replace and upgrade ten individual onsite systems

The MRPVD, the Town, and a consulting engineering team engaged with the community to voluntarily support the project in a manner that addressed community member concerns about the plan. To do this, the Town Selectboard created a Wastewater Advisory Committee (WAC) that included community members as well as elected members. The WAC headed the development and implementation of the project, while prioritizing voluntary participation throughout the process. They employed prominent public education and outreach strategies about the project and potential impacts. Efforts such as door to door survey questionnaires, newsletters and mailings, and public presentations ensured active community involvement and knowledge of the community needs. The Committee also offered to test homeowner's water supply to encourage buy-in to the new system. After many of the tests tested showed signs of contamination, most homeowners voluntarily signed up to be connected to the system. The WAC became a key factor and motivator in the success of the construction and implementation of the project. This project successfully employed multiple different decentralized solutions under one municipality and within one project means.

*Management of the utility is currently handled by a Village employee, a contract operator and engineer, and the sewer commission.*



## Financial Breakdown

Warren's total project costs came to \$4,662,000 and received both grants and state loans to fund the development.

They received:

- EPA Demonstration Grant
- EPA State & Tribal Assistance Grant (STAG)
- Vermont State Pollution Abatement Grant/Match
- State Revolving Fund Loan

The funding and grants received covered the majority of the project costs but to cover the costs of the estimated annual operation and maintenance, capital replacement, and loan repayment, the WAC developed a user friendly rate structure to make the payments affordable for fixed income residences.

**User Fee (2020):**  
\$1,180/ year

**Debt Service:**  
*On GrandList*

*To learn more visit:*

[dec.vermont.gov/village-wastewater](http://dec.vermont.gov/village-wastewater)